

Abstract for an Invited Paper  
for the NWS08 Meeting of  
The American Physical Society

**Measuring Stream Dynamics with Fiber Optics**

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I'll review recent work using a fiber optic based distributed temperature system to gauge stream temperatures over a several kilometer reach with spatial resolution down to one meter, and temperature resolution to 0.1C. The system has been installed in the H. J. Andrews Long Term Ecological Research Site in southern Oregon to help gauge ground water/surface water fluxes, as well as the Walla Walla river to aid with fish habitat studies. The talk will describe how interdisciplinary work between applied physics and ecology can provide novel measurement solutions for ecologies and climates in flux.